



## Adaptation cost of diarrhea and malaria in 2030 for India

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### Abstract:

Background: Climate change is significant and an emerging threat to public health. The climate change-related health consequences of diarrheal diseases and malaria are projected to pose the largest risks to future populations. This study provides an initial estimate of the cost of intervention to cope with the health impacts of climate change in 2030 on diarrhea and malaria for India. Materials and Methods: The costs of treating diarrheal diseases and malaria in 2030 were estimated under three climate scenarios using: (1) the current numbers of cases; (2) the projected relative risks of these diseases in 2030; and (3) current treatment costs. The analysis assumed that the number of annual cases and costs of treatment would remain constant. There was limited consideration for population growth and socioeconomic development. Results : Underscenario assuming emissions reduction resulting in stabilization at 750 ppm CO<sub>2</sub> equivalent in 2210, the costs of treating diarrheal diseases and malaria were estimated to be between Rs. 3648 lakhs and Rs. 7787 lakhs. The Mitigation scenario results in fewer cases and lower investment needs than the BAU scenario. For the middle scenario, the annual needs are about Rs. 1036 lakhs per year, lower from Rs. 4684 lakhs down to Rs. 3648 lakhs. Should the high scenario occur, the annual investment needs are about Rs. 3901 lakhs lower from the BAU to the Mitigation scenario. Conclusion : The adaptation and mitigation can reduce sensitivity to climate change. The case for making public expenditures is strong on economic and moral grounds because the costs without interventions are much higher if we consider the relative risk of these diseases.

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### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

**Temperature:** Fluctuations

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location:

# Climate Change and Human Health Literature Portal

resource focuses on specific location

Non-United States

**Non-United States:** Asia

**Asian Region/Country:** India

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Infectious Disease, Morbidity/Mortality

**Infectious Disease:** Foodborne/Waterborne Disease, Vectorborne Disease

**Foodborne/Waterborne Disease:** Other Diarrheal Disease

**Vectorborne Disease:** Mosquito-borne Disease

**Mosquito-borne Disease:** Malaria

**Medical Community Engagement:** 

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

**Model/Methodology:** 

type of model used or methodology development is a focus of resource

Cost/Economic, Outcome Change Prediction

**Population of Concern:** A focus of content

**Population of Concern:** 

populations at particular risk or vulnerability to climate change impacts

Children

**Resource Type:** 

format or standard characteristic of resource

Research Article

**Timescale:** 

time period studied

Medium-Term (10-50 years)